List of U.S. Army Research Institute Research and Technical Publications

October 1, 1999 to September 30, 2000
With Author and Subject Index

U.S. Army Research Institute for the Behavioral and Social Sciences
5001 Eisenhower Avenue, Alexandria, Virginia 22333-5600

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Foreword

The means of dissemination of the results of ARI's research and development/studies and analysis program vary widely depending on the type of work, the subject matter, and the sponsor/proponent. Typically, major findings with immediate policy and procedural implications are briefed to sponsors and proponents in order to enable timely implementation. This is followed up with complete documentation in the form of research and technical publications such as the ones listed here. In many cases, these documents represent the actual item handed off to the sponsor/proponent; this is particularly true of the Research Product category. In other cases, results are published in order to provide a complete record of the work done, and for future reference by researchers doing work in the same or similar areas.

This annotated list for FY00 provides an idea of both the depth and scope of the ARI research effort, and is a valuable resource for anyone interested in military psychology from either a scientific or operational perspective.

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Introduction

The primary responsibility of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) is to maximize soldier effectiveness. ARI accomplishes its mission through research and development in the acquisition, training, utilization, and retention of Army personnel. ARI research and products affect every Army mission with a human performance component.

As convenient references for qualified agencies and individuals and sponsors, ARI publishes lists of its technical and research publications. This issue of the publication list describes reports published during the period October 1, 1999, to September 30, 2000. It contains the abstract of each publication and the bibliographic information needed to identify a publication. The abstracts have been written, as far as possible, to describe the principal research findings in non-technical terms; however, technical language is used to communicate efficiently the details of research analysis. Author and subject indexing provide access to individual reports and topics.

ARI Publications

ARI publications are divided into separate, consecutively numbered categories appropriate to their intended audience and function. During fiscal year 2000, the following types of research and technical reports were issued by ARI:

Research Note (RN). An interim or final report typically of limited interest outside of ARI. It is filed with the Defense Technical Information

Center (DTIC) but is not printed. Research Notes usually fall into one of the following categories:

- An in-house report that is of limited interest outside of ARI but is considered worth submitting to DTIC to be part of the Department of Defense (DoD) archive of technical documentation.

- An interim contract report that is of limited interest outside of ARI but is considered worth submitting to DTIC to be part of the DoD archive of technical documentation.

- A final contract report that is of limited interest outside of ARI but must be submitted to DTIC in accordance with Department of the Army regulations to close a contract.

- Material related to a Research Report or Technical Report (detailed tables, graphs, charts, sample forms, and sample training and testing materials) published as a Research Note to economize on printing and distribution.

Research Product (RP). A user-oriented report intended to aid Army personnel. Examples are handbooks, manuals, and guidebooks.

Research Report (RR). A report of completed research intended primarily for dissemination to military managers. Research Reports may deal with policy-related issues but typically do not

include specific policy recommendations.

Special Report (S). A published report on a topic of special interest or in-house research intended primarily for dissemination to a select audience.

Study Report (SR). A published report briefly documenting studies and analyses.

Study Note (SN). A Study Note may contain or consist of technical text, computer code, diskettes or tapes with software, databases, codebooks or other documentation, raw data, data collection instruments, figures, tables, or any other products that do not concisely convey the import of a project but which must be archived for technical completeness.

Technical Report (TR). A report of completed research intended primarily for dissemination to researchers.

Research Reports and Technical Reports published by the U.S. Army Research Institute for the Behavioral and Social Sciences are intended for sponsors of research and development (R&D) tasks and for other research and military agencies. Any findings ready for implementation at the time of publication are presented in the last part of the Executive Summary. Upon completion of a major phase of the task, formal recommendations for official action normally are conveyed to appropriate military agencies by briefing or memorandum.

ARI Distribution

Initial distribution of these publications was made directly by ARI. Research Reports, Technical Reports, Study Reports, and Research Products were distributed primarily to operational and research facilities and their sponsors in DoD, to other interested Government agencies, and to DTIC; copies of some reports were also sent to the Library of Congress for distribution to libraries participating in the Documents Expediting Project. Research Notes and Study Notes were deposited with DTIC but were not published. These publications are NOT available from ARI. DoD agencies and contractors can purchase paper copies or microfiche from:

Defense Logistics Agency
Defense Technical Information Center
8725 John J. Kingman Road, Suite 0944
Ft. Belvoir, VA 22060-6218
(703) 767-9030 or DSN 284-9030

Other Government agencies and the general public can obtain unclassified reports from:

U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
(703) 487-4650

NOTE: When requesting copies of these reports, use the DTIC accession number (AD - - - - - - -) appearing in parentheses following the date of publication of each citation

Technical Reports

TR 1098

Defining Dimensions of Performance for Special Forces Soldiers. Zazanis, M.M., Carpenter, T.D., and Kilcullen, R.N. December 1999. (AD B250535)

Job performance ratings for 208 Special Forces soldiers were analyzed to minimize redundancy across the performance dimensions. The ratings were first grouped using factor analysis then cluster analysis was used to identify subgroups within the primary factor that was extracted. Results suggested a six-dimension solution: Reasoning Skills, Facility with Others, General Soldiering, Effort, Physical Fitness, and Intercultural Skills. The General Soldiering dimension, however, was theoretically diverse. The rating of a soldier's overall effectiveness was regressed on these six dimensions to examine the unique contribution of each summary variable to overall effectiveness. Results indicated that Reasoning Skills, Facility with Others, Effort, and general Soldiering contributed significant unique variance in explaining a soldier's overall effectiveness. Finally, a set of eight rating scales was proposed that provided a more parsimonious set of ratings that the original 15, but maintained the theoretical accuracy that was lost in the General Soldiering dimension. Recommendations are discussed to assist future researchers and commanders in determining the most appropriate set of ratings for their needs.

TR 1099

Identifying Conceptual Skills of Future Battle Commanders. Noble, S.A. and Fallesen, J.J. March 2000. (AD A374875)

This research was conducted to support the U.S. Army Research Institute-Fort Leavenworth Research Unit's ongoing DEVCOM program (Developing Commanders for the Future Battlefield). Specifically, this research was designed to supplement previous work done in the development of battle commanders' conceptual thinking (Fallesen, in preparation). The overall goal of this research was to identify, organize, and clarify examples of the conceptual skills that are important to the development of future battle commanders. Three data collections helped to develop a conceptual skills model called the S^3 (Situation Understanding, Simulation, Self-regulation). The S^3 Model helped to filter previous lists by separating task specific Conceptual Skills ("what to think") from those conceptual skills centered on general aspects of thinking ("how to think"). Of all the data collected, the most useful information was found by considering the inconsistencies between importance ratings and personal/historical examples. Inconsistencies were found where officers would rate non-traditional conceptual skills low on importance, yet they would provide an example of where possessing such a skill was essential. In general, officers were unfamiliar with conceptual skills that are directly represented in tactical decision making procedures or the estimate of the situation.

TR 1100

An Annotated Bibliography of Recruiting Research Conducted by the U.S. Army Research Institute for the Behavioral and Social Sciences. Penney, L.M., Horgen, K.E., and Borman, W.C. February 2000. (AD A376109)

This is an annotated bibliography of research by the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) on Army recruiting. Most of the research covered in this report was conducted during the period 1980 and 1999. To provide a framework for this work the research summaries are organized around a model of Army recruitment showing the important factors contributing to successful recruiting. In the model, recruiter production is conceptualized as a joint function of recruiter performance and youths' propensity to enlist. Propensity to enlist is linked to

advertising effects and several other environmental factors. Recruiters' performance, in turn, is influenced by their personal characteristics, the training and mentoring they receive, and the level of technical and organizational support provided to them. The ARI research relating to each of these major components in the recruitment model is documented in this report.

TR 1101

Leadership for Change. Harries-Jenkins, G. June 2000. (AD not yet available)

Western military establishments in a period of détente encounter a number of uncertainties in their quest for the most appropriate leadership styles and strategies. The pace and scale of change in modern day armed forces is such that traditional situational leadership associated with well established means and objectives may no longer be sufficient. At a time when the nature of primary goals, long-term norms and societal preferences makes it difficult to identify and prioritize individual organizational strategies it is useful to review the overall experience of national military establishments. Such a review is most effectively carried out through a comparative approach which through it may not produce prescriptive solutions, provides a greater understanding of the challenges to be faced.

TR 1102

21st Century Soldiers and Noncommissioned Officers: Critical Predictors of Performance. Ford, L.A., Campbell, R.C., Campbell, J.P., Knapp, D.J., and Walker, C.B. May 2000. (AD A380044)

The goal of the Soldier21 and NCO21 projects was to conduct a comprehensive analysis of future conditions and future job demands in order to identify critical performance predictors or knowledges, skills, and abilities (KSAs) that may eventually be developed into selection (Soldier21) and promotion (NCO21) criteria. Three eras were examined: the Army of Excellence (1990-2000), the Army XXI (2000-2010), and the Army After 2010 (2010-2025). The specific objectives for Soldier21 were to (a) identify and describe the nature and type of changes that are expected to occur in these eras, (b) forecast future job requirements and the critical individual characteristics of soldiers who will perform proficiently, and (c) identify selection measures that might be used to assess individual characteristics. For NCO21, the objectives were to (a) provide a description of forecasted conditions affecting future NCO performance, (b) describe the future job requirements, and (c) provide a descriptive list of the main qualities needed for effective noncommissioned officer performance. This report documents the methodology and findings of this effort.

TR 1103

Training Dismounted Soldiers in Virtual Environments: Enhancing Configuration Learning. Witmer, B.G., Sadowski, W.J., and Finkelstein, N.M. July 2000. (AD A381715)

For nearly a decade the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) has conducted research in using virtual environments (VE) to train dismounted soldiers. While showing that some dismounted soldiers' skills can be trained in VE, the research has also identified problems in using VE for soldier training. Spatial performance deficiencies caused by disorientation and perceptual distortion have been found. This report describes research investigating the effectiveness of various VE navigation aids in overcoming inherent VE deficiencies, thereby enhancing VE spatial learning. Sixty-four participants received a guided tour of the third floor of a virtual building, freely explored the environment visiting six named destinations along the way, and then pract5iced finding each destination in turn. After training, participants were asked to estimate the distance and direction to destinations not in their line of sight, to locate each destination be

traveling to it after having been teleported to another destination, and to place room cut-outs on a map outline of the third floor. The only navigation aid that improved performance on these tasks was providing an aerial view of the VE. The effectiveness of the aerial view depended on how the participants used it.

TR 1104

Platoon Readiness as a Function of Leadership, Platoon, and Company Cultures. Bass, B.M. and Avolio, B.J. August 2000. (AD not yet available)

The ultimate criterion of Army light infantry unit readiness is its performance in combat. A second criterion is the unit's readiness in peacekeeping missions. A close representation of requirements for peacekeeping is reflected in the unit's effectiveness in home station. A modified military version of the Multifactor Leadership Questionnaire (MLQ) was used to profile the individual leadership style of platoon leaders (PLs) and platoon sergeants (PSGs). The Team Multifactor Leadership Questionnaire (TMLQ) was used to describe the platoon and company culture. Results for the MLQ were in line with expectations derived from Bass and Avolio's full range model of leadership. If leaders, particularly PLs, were transformational according to their superiors, peers, and subordinates, their platoons were seen by raters in home station as more effective both in home station and in simulated combat arenas. The most accurate predictions were made by the company cadres; the least accurate were made by the platoon members. Overall, the level of transformational leadership exhibited by platoon leaders in garrison predicted performance at the Joint Readiness Training Center (JRTC). Similarly, the platoon sergeants' transformational leadership also predicted performance at JRTC.

TR 1105

Tacit Knowledge for Military Leadership: Seeking Insight Into the Acquisition and Use of Practical Knowledge. Hedlund, J., Sternberg, R.J., and Psotka, J. September 2000. (AD not yet available)

he goal of the project was to provide preliminary insight into the process of tacit knowledge acquisition and to support the development of tools to assess the use of various knowledge-acquisition processes in solving practical leadership problems. These requirements were met by (a) reviewing relevant theory and research on tacit knowledge, leadership, and knowledge acquisition; (b) reporting results of analyses performed on free text responses provided by Army officers to tacit-knowledge scenarios; and (c) discussing the implications of this research for ongoing efforts to identify and assess the processes associated with tacit-knowledge acquisition. Over the course of the multi-year project evidence was discovered that tacit knowledge from the stories and advice leaders shared about their experiences could be used to developed tools for measuring the possession of tacit knowledge and evidence was obtained that tacit knowledge relates to effective leadership. Relationships were found between rank and tacit-knowledge scores on the company and battalion inventories, providing support for the relationship between experience and tacit knowledge.

Research Reports

RR 1746

A Trial Program for Selection to Infantry Training Brigade Company Command. Matthews, M.D. and Dyer, J.L. October 1999. (AD A369935)

This research evaluated a trial program in which carefully selected, volunteer senior first lieutenants and junior captains were assigned to U.S. Army Infantry Training Brigade company command prior to completing the Infantry Captains Career Course (ICCC). Pre-ICCC commanders were promised a follow-on command in an operational unit and served in the ITB command for 11 months, versus the standard 18 months. The job performance, leadership, organizational and training management skills, and turbulence effects of the shorter command tour of captains in the trial program (Pre-ICCC commanders) were compared to captains who assumed command after completing ICCC (Post-ICCC commanders). A combination of surveys and interviews with drill sergeants, battalion commanders, battalion command sergeants major, and the company commanders was conducted. Results showed Pre-ICCC company commanders received as high or higher ratings than Post-ICCC commanders. Turbulence effects were rated as minimal to moderate and were minimized by various management techniques. Battalion commanders spent relatively greater time developing Pre-ICCC commanders, but the Pre-ICCC commander's great enthusiasm and motivation compensated for their lack of experience.

RR 1747

The Changing of the U.S. Army: A Summary of Future Focused Reports from 1990-1999. Zaccaro, S.J., Klimoski, R.J., and Boyce, L.A. October 1999. (AD A371558)

This report briefly summarizes a review of 83 documents that focused on how the Army and its environment might be changing in the future, and what these changes could mean for leadership practice, leadership development, and other important organizational policies. The reports and presentations reviewed were prepared from 1990-1999 with the majority written over the last three years. These documents were reviewed to answer two central questions: (1) What is the Army's operating environment likely to be in the future? and (2) What do environmental changes mean for leadership practices and leader development? The review of the 83 reports indicated significant changes in six environmental sectors: geopolitical, technological, economic, socio-cultural, and demographic. The results of the review are organized around four topics: (1) leadership performance requirements resulting from changes in the Army's operating environment; (2) the leader attributes that contribute to leader effectiveness; (3) the assessment and selection of Army officers; and (4) the training and development of officers. The resulting summary was prepared in the form of a briefing to be presented to senior decision makers. This report includes the summary, list of reports reviewed, and briefing slides.

RR 1748

Force XXI Training Program—Digital Project: Report on Development and Lessons Learned. Graves, C.R., Pratt, D.M., Campbell, C.H., Allen, J.D., Thorson, K.G., Jenkins, S.N., and Quinkert, K.A. November 1999. (AD A371065)

This report discusses the Army's initial research into converting Force XXI Training Program (FXXITP) products to meet the increasingly pressing training needs of digital battle staffs. The report describes the activities and outcomes of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) Force XXI Training Program – Digital (FXXITP-D) project. The project developed an approach that supports the conversion of existing training products in order to meet new training needs. During the project, the conversion approach was employed to research and enact

conventional-to-digital conversions of selected FXXITP products, including the Battle Staff Training System (BSTS) and Combined Arms Operations at Brigade Level, Realistically Achieved Through Simulation (COBRAS) vignettes, Brigade Staff Exercise (BSE), and Brigade and Battalion Staff Exercise (BBSE). In addition to the conversion approach and prototype digital training products, the project identified a number of lessons for the continuing development of digital training and the digital force.

RR 1749

Training Lessons Learned on Sights and Devices in the Land Warrior (LW) Weapon Subsystem. Dyer, J.L. November 1999. (AD A371583)

The Land Warrior (LW) system is the Army's future system for the individual soldier. The LW consists of five subsystems, with the weapon subsystem the focus of the training research. The training of two platoons in preparation for a LW operational test was observed. Four sights and devices were trained (the close combat optic, two aiming lights, and the thermal weapon sight), plus a bore light. The training adequately prepared the soldiers to qualify on the M4 carbine with the close combat optic and the thermal weapon sight. Qualification standards were extremely difficult to achieve with the aiming lights on the M4, due to environmental conditions typical of Army ranges, not to lack of firer expertise. A standardized technique for boresighting all the devices was developed. Diagnostic skills needed by trainers and soldiers to effectively hit targets with each device were identified. The findings have immediate applicability to the Army, as the devices are currently being fielded. The report describes what contributes to quality training on the devices, and what should be integrated into marksmanship programs of instruction, technical manuals, and the training and doctrine literature.

RR 1750

Attrition in the Army from the Signing of the Enlistment Contract through 180 Days of Service. Fischl, M.A. and Blackwell, D.L. January 2000. (AD A372717)

This work addressed attrition from the Army's Delayed Entry Program (DEP) and the training phase of enlistment. The sample was the file of all non-prior service Active Army contracts executed in Fiscal Years 1992 and 1993, tracked in service through Fiscal Year 1995. Independent variables were all information the Army routinely collects with the signing of enlistment contracts; the dependent variable as the dichotomous attritted or still serving. The total N of 159,649 was divided into two halves. The first half was used to identify independent variables that discriminated the criterion groups, the second half to determine what the effect would be if those variables were used for pre-enlistment screening. Results indicated that AFQT Category IIIB individuals had attrition rates indistinguishable from IIIA scorers; that no-high school diploma graduates continued to be poor attrition risks, except for those who had participated in military youth programs, and that extremely heavy individuals were poor risks. The information was applied to screen holdout group files and construct plots cross tabulating cases which would have qualified or not, by attritted or still serving.

RR 1751

The Computer Background of Infantrymen: FY99. Dyer, J.L. and Martin, G.H. December 1999. (AD A372716)

The research determined the experience soldiers had with computers, their perceptions of their own skill, and their ability to identify icons representative of those in the proposed Land Warrior software. A survey was given to soldiers and leaders representing the rank and experience structure of an Infantry rifle platoon, as well as to Infantry platoons. The platoon leaders, the lieutenants who are recent college graduates, had the most computer expertise and were the most homogeneous on the

indicators of computer skill in the survey. For the remaining platoon members, the picture was more diverse for both noncommissioned officers and squad members. Although a substantial portion of these groups had computer skills, a substantial portion had very limited skills. If training were to begin today on a digital system used by the rifle platoon, the results indicate that prior and special training on basic computer skills would be required for many of these soldiers. Although the focus was on the rifle platoon, the results should be typical of other soldiers throughout the Army of similar ages and ranks. The research will continue in FY00 and FY01 to determine changes in computer expertise in the groups studied.

RR 1752

Operational Assessment of Force XXI Training Products: Lessons for Successful Fielding.
Pratt, D.M., Graves, C.R., Campbell, C.H., Detrani, R., Leibrecht, B.C., Allen, J.D., Jenkins, S.N., and Quinkert, K.A. January 2000. (AD A372484)

This report describes the activities and findings of the capstone assessment of the U.S. Army's Force XXI Training Program (FXXITP). The assessment project was titled, "Implementation and Support for the Assessment of Force XXI Training Program (ISAT)," and focused on the utility of selected FXXITP products in supporting brigade yearly training, specifically in preparation for National Training Center rotations. The ISAT project outcomes represent a compilation of implementation methods, assessment data and analyses, lessons, and recommendations. The project confirmed the importance of maintaining the currency of training products, and of providing both education and implementation support to units who will use the products. Additionally, the project highlighted the importance of creating flexible training products that can be tailored to the needs of the user.

RR 1753

Modeling and Measuring Situation Awareness in the Infantry Operational Environment.
Endsley, M.R., Holder, L.D., Leibrecht, B.C., Garland, D.J., Wampler, R.J., and Matthews, M.D. January 2000. (AD A372709)

This report documents the methods and findings of the Infantry Situation Awareness (SA) project, conducted to develop a model and measures of SA for the unique Infantry operational environment. The research team analyzed the complexities of the Infantryman's environment based on the tactical parameters of mission, enemy, terrain, troops, time available, and civilian considerations (METT-TC) at various echelons from the individual soldier to brigade level. The analysis addressed the key factors influencing SA during various stages of operations. Available models of SA were reviewed, and two were adapted and integrated to account for individual and team SA, respectively, in Infantry operations. In addition, the research team reviewed available measures, both direct and indirect, that can be employed to evaluate individual and team SA in different operational situations and at varying echelons. The advantages, disadvantages, and application considerations for these measures were identified. The report recommends future research requirements to address Infantry SA needs related to modernization initiatives and training development efforts. Finally, the report offers suggestions to senior Army leaders concerning the value of considering SA in the development of equipment, doctrine, and training programs.

RR 1754

Analysis of Mission-Based Scenarios for Training Soldiers and Small Unit Leaders in Virtual Environments. Pleban, R.J., Eakin, D.E., and Salter, M.E. January 2000. (AD A373762)

This report describes a multi-tiered process for generating a set of high payoff tasks that can be cost effectively represented in virtual environments. The tasks were used to guide the development of

small unit (squad/team) dismounted Infantry training scenarios which were evaluated at the Dismounted Battlespace Battlelab (DBBL) Land Warrior Test Bed. Scenarios were based on five major tasks, Assault, Move Tactically, Enter Building and Clear a Room, Reconnoiter Area, and React to Contact. Soldiers, working as teams or part of a squad, executed all task-based scenarios through the use of individual combatant simulators. Soldiers indicated that simulations improved their real-world performance on similar tasks. Overall, the simulators were seen as effective for small unit training, e.g., team coordination, communication, decision making. The scenarios which provided the most training value integrated soldiers with computer generated forces to provide live force-on-force capability. The research showed the potential training value of dismounted Infantry simulation technologies for soldier and small unit training, particularly, cognitive-based activities. Subsequent research will focus on the use of this technology to enhance the decision-making skills of soldiers and small unit leaders.

RR 1755

Structured Simulation-Based Training Programs: History and Lessons Learned. Shlechter, T.M. and Finley, D.L. April 2000. (AD A376389)

This report provides an historical account and analysis of the U.S. Army Research Institute's (ARI) research and development (R&D) efforts on structured simulation-based training (SST). These R&D efforts have led to the development of 30 research reports, 14 conference papers, and over 200 training support packages (TSPs). The developed TSPs focused on optimizing the simulation-based training opportunities for armor and mechanized infantry platoons and companies, and their battalion and brigade staffs. The TSPs have also been developed for representatives of a battalion's or a brigade's combat support and combat service support elements. This report's findings indicate that the developed TSPs would, if utilized properly, help the U.S. Army more fully exploit its advanced simulation-training systems. In addition, 43 lessons learned have been derived from these SST projects. The present report provides a central information source on ARI's SST efforts, and has important implications for future SST research and development efforts.

RR 1756

Combined Army Structured Simulation-Based Training Programs: Reflections of Key Developers. Finley, D.L., Shlechter, T.M., and Lavoie, M.C. April 2000. (AD A376715)

A series of research and development programs on structured simulation-based training (SST) were conducted during the period 1993-1999. These programs focused on developing SST training support packages (TSPs) to meet collective training requirements for the combined arms at echelons of brigade and below. An SST development methodology was also produced. The purpose of the methodology was to support future TSP developments as requirements for them are identified. This report represents the second portion of a two-part examination of issues related to SST. The first report described the history of these programs and their lessons learned. This report presents findings in three areas which were either not directly addressed or insufficiently resolved in published SST reports. These areas are: the respective roles of the constructivism and behaviorism/Systems Approach to Training instructional theories in designing the SST TSPs; needs for additional information and SST-related research; and planning and logistical requirements for integrating and maintaining SST as a part of the U.S. Army training system. The information needed to address these three areas was obtained from structured interviews and questionnaires.

RR 1757

Direct Observation in the Conduct of Training Impact Analyses. Evans, K.L. and Dyer, J.L. April 2000. (AD A377177)

Important training issues are sometimes not considered when examining the relative merits of competing candidates for an operational system requirement. This is particularly true early in the product development cycle. To address this concern, training impact analysis methods were developed and implemented within the context of an Operational Test (OT) of antitank weapon systems and an Advanced Concept Technology Demonstration (ACTD) of off-the-shelf technologies for urban operations. Data collected were predominately observational, consisting of time-referenced specimen records documented sequentially within their naturally occurring context. These data were used to identify and compare the tasks soldiers had to learn and perform with different candidate systems. Subjective judgments were made about the relative complexity and difficulty of tasks across systems. Relative to a baseline technology or predecessor system, each candidate was ultimately judged to have either a positive, neutral, or negative potential impact on the institutional and unit training base. Training impact rankings of systems were based on the relative numbers of tasks involved, the relative complexity and difficulty of each task, and the relative levels of training resources needed to achieve operational proficiency. Finally, several potential uses of training impact information are suggested.

RR 1758

Summary of Recommendations for Successful Fielding of Force XXI Training Products. Campbell, C.H., Pratt, D.M., Graves, C.R., and Quinkert, K.A. May 2000. (AD A378082)

This report summarizes the activities and findings of the capstone assessment of the U.S. Army's Force XXI Training Program (FXXITP). The assessment project was titled, "Implementation and Support for the Assessment of Force XXI Training Program (ISAT)," and focused on the utility of selected FXXITP products in supporting brigade yearly training, specifically in preparation for National Training Center rotations. The ISAT project outcomes represent a compilation of implementation methods, assessment data and analyses, lessons, and recommendations. The project confirmed the importance of maintaining the currency of training products, and of providing both education and implementation support to units who will use the products. Additionally, the project highlighted the importance of creating flexible training products that can be tailored to the needs of the user. A companion report, entitled "Operational Assessment of Force XXI Training Products: Lessons for Successful Fielding" (Pratt et al., 2000) discusses the background of the ISAT project and documents project activities and outcomes in more detail.

RR 1759

The Commanders' Integrated Training Tool for the Close Combat Tactical Trainer -- 2: Second Generation Design and Prototype Development. Gossman, J.R., Bonnett, M., Forrest, D., Shadrick, S., Dannemiller, B., Flynn, M.R., Mauzy, R.P. and Bonnett, M. June 2000. (AD A379049)

This report describes the continued design and prototype development of the Commanders' Integrated Training Tool (CITT) for the Close Combat Tactical Trainer (CCTT), a system of armored vehicle manned-module simulators and workstations that allows units to train collective armor and infantry tasks at the platoon through battalion task force level. This project was a follow-on to the initial CITT project completed in January, 1999 which produced the design and a prototype software application and Web Site to provide unit commanders and other unit trainers with comprehensive information on CCTT and on structured training along with the ability to produce

exercise Training Support Packages. The current project expanded the CITT design and prototype to include additional terrain databases, information and exercises for Force XXI Battle Command Brigade and Below (FBCB2) units, and the integration of CITT with the CCTT Exercise Initialization Tool (CEIT). Near-, mid-, and long-term implementation strategies and fielding plans were developed and are presented along with lessons learned and recommendations for future actions.

RR 1760

Factors Affecting the Career Decisions of Army Captains. Matthews, M.D. and Hyatt, J.R. June 2000. (AD A380929)

Army captains were interviewed to determine factors that affect their career-decisions. Seventeen Fort Benning captains who had submitted their paperwork to separate from the Army ("leavers"), 15 Fort Benning captains who planned to remain in the Army ("stayers"), and 15 captains from four Infantry posts who had separated from the Army but had recently returned to active duty ("returners") were interviewed. Because the majority of those interviewed were assigned to Fort Benning, the generality of the results to the Army as a whole are limited. However, job dissatisfaction/frustration, family issues, and the perception of strong civilian job opportunities were the main reasons captains left. Pay and benefits were not among the top factors mentioned. Leavers also were less satisfied with their degree of intrinsic job satisfaction and chances for advancement than stayers or returners. Stayers and returners valued the intrinsic qualities of Army work and life. Suggestions for improving captain retention include earlier and more meaningful mentoring of junior officers, giving officers more control in the job assignment process, and better management of operational tempo (OPTEMPO).

RR 1761

Basic Rifle Marksmanship Training with the Laser Marksmanship Training System. Hagman, J.D. July 2000. (AD A380109)

This research compared the relative impact of two approaches for training Basic Rifle Marksmanship (BRM). One hundred and eighty four One-Station Unit Training (OSUT) infantry trainees (i.e., the experimental group) trained under a U.S. Army Reserve (USAR)-developed, device-based (i.e., the Beamhit^{TM} Laser Marksmanship Training System [LMTS]) approach, and 202 infantry trainees (i.e., the control group) trained under the standard U.S. Army Infantry School BRM program of instruction. Results revealed that the experimental group outperformed the control group on shot grouping, weapon zeroing, and known-distance firing. No between-group differences were found, however, for record fire qualification scores or for performance during pop-up target engagement practice periods leading up to qualification. The implications of these findings for initial marksmanship training are discussed along with plans for follow-up USAR-sponsored research to assess (a) the impact of LMTS-based training on sustainment performance, and (b) the feasibility of using LMTS-based performance to predict live-fire qualification scores.

RR 1762

The Computer Background of Soldiers in Infantry Courses: FY99-00. Fober, G.W., Bredthauer, J.L., and Dyer, J.L. August 2000. (AD A381507)

The research determined the experience soldiers had with computers, their perceptions of their own skill, and their ability to identify commonly used icons. A survey was given to soldiers attending Infantry courses during FY99 and FY00. The report documents the FY00 results and compares them to FY99 results. The soldiers' ranks mirrored the structure of an Infantry rifle platoon. Lieutenants, most being recent college graduates, had the greatest computer expertise and were the most

homogeneous on the indicators of computer skill in the survey. For the remaining soldiers, the picture was more diverse for both noncommissioned officers and junior enlisted members. A substantial portion of these groups had computer skills, but many had very limited skills. Based on these results, training on basic computer skills may be necessary prior to advanced training on digital systems used by rifle platoons. Although computer skill level for these soldier populations remained stable from FY99 to FY00, computer ownership increased. Because many soldiers indicated learning computer skills on their own, the increased percentage of soldiers owning computers may eventually translate to higher skill levels. The research will continue in FY01 to determine changes in computer expertise in the groups studied.

Research Products

RP 2000-01

A Review and Annotated Bibliography of the Literature Pertaining to Team and Small Group Performance (1989 to 1999). LaJoie, A.S. and Sterling, B.S. December 1999. (AD A371864)

The military, along with private industry, is relying more on small teams of specialized individuals who work together to achieve a common goal. Examples of these teams include emergency medical teams, aircrews, decision-making teams, industrial project teams, Special Forces teams, weapon system crews and everyday work teams. Training and military doctrine has been evolving to reflect this emphasis on teamwork. The purpose of this annotated bibliography is to review literature published over the last ten years concerning team and small group performance. Specifically, the articles reviewed in this report represent a sampling of the research published in the social sciences, including psychology, sociology, and business. The team and small group literature reviewed includes examples of the many types of teams mentioned earlier. A summary and integration of this work is provided. In general, the research suggests that there are several components which contribute to the successful performance of teams, and that some of these components can be explicitly trained. Several training models are discussed.

Special Reports

S40

ARI's Stakeholder Analysis—Findings, Issues, and Recommendations. Hitchcock, R.R. and Davenport, B.A. March 2000. (AD A376151)

The U.S. Army Research Institute (ARI) contracted with Booz-Allen & Hamilton to conduct an analysis of key issues that define the relationship between ARI and its stakeholders. There were four objectives:
- Assess stakeholders' awareness of ARI's mission, roles, and capabilities
- Determine if ARI is providing the products and services needed by its stakeholders
- Evaluate stakeholders' satisfaction with ARI products and services
- Derive insights from the stakeholders to help ARI craft a proactive, long-term operational strategy.

This report summarizes the methodology, findings, issues and recommendations resulting from the stakeholders analysis. Results were used as the baseline to develop a charter and agenda for the ARI Stakeholders Advisory Board comprised of Army military and civilian leaders.

S41

Matching Soldiers to Jobs: The Enlisted Personnel Allocation System (EPAS). Lightfoot, M.A. and Ramsberger, P.F. August 2000. (AD not yet available)

This U.S. Army Research Institute (ARI) special report on the Enlisted Personnel Allocation System (EPAS) presents the history and current status of the Army's enlisted personnel selection and classification system. It is written for policy makers, managers, and human resources personnel. The report includes a discussion of the theoretical and practical aspects of selection and classification testing in the context of Army operations dating back to World War I. EPAS, the optimal person-job matching software developed by ARI, is described along with its potential to improve the effectiveness of the Army's classification system.

S44

Shooting Straight: 20 Years of Rifle Marksmanship Research. Evans, K.L., Dyer, J.L., and Hagman, J.D. October 2000. (AD not yet available)

The Army Research Institute (ARI) has developed numerous research products for rifle marksmanship training over the past 20 years. This report highlights ARI marksmanship research efforts during this period of time, focusing on those contributions that continue to influence soldier training today. ARI marksmanship contributions have included program evaluation, instructional development, the design of training materials for students and instructors, systems research, training device development, and training device evaluation. Future marksmanship research questions are discussed in the areas of system integration, new systems training, and simulation training strategies.

S45

Training for Performance: The Structured Training Approach. Campbell, C.H., Quinkert, K.A., and Burnside, B.L. August 2000. (AD not yet available)

This report summarizes ARI's work in conducting research and development on structured training programs, discusses the uses for structured training, and presents an overview of the lessons learned and recommendations for future work. Structured training programs are characterized by a focus on selected tasks, emphasis on task performance feedback, realistic context involving simulation, documentation in the form of a training support package (TSP), and linkage to other training in a broader strategy for training. Eight of ARI's recently developed structured training programs are

described as example of the various ways the approach can be used. The report presents the design, development, and implementation processes, and discusses seven challenges to design and implementation (e.g., exportability, personnel support requirements, maintaining currency). Findings on the acceptability and effectiveness of structured training are summarized, along with first-hand comments from users in various settings. The report briefly describes six key opportunities for using structured training (e.g., refresher training for deployed units, preparation for Combat Training Center rotations, sustainment training). Finally, a summary of the lessons learned and recommendations is included. These focus on leader education, use of surge teams for training support, training flexibility, performance measurement and feedback, and links to other initiatives.

Study Reports

SR 2000-01

Integration of Training Development Among Schools and Distributed Training Environments.
Clagg, R.A., Detrani, R.L., Burnside, B.L., and Finley, D.L. December 1999. (AD A377285)

Distributed training development activities provide a means for geographically separate proponents, subject matter experts, and users to interact while developing training products. While this may not be a new concept, it has become increasingly important with the Army's digitization efforts and the rapid fielding of other new systems. This study examines distributed training development activities among U.S. Army Training and Doctrine Command (TRADOC) proponent schools and other distributed training environments, such as that associated with Program Managers. The approach was a critical investigation and examination of where the Army is and where it needs to be heading as it tackles the issue of distributed training development in support of newly fielded digital information systems. The study revealed that there are major issues and needs associated with the development and distribution of training at sites other than TRADOC proponent schools. An important component of the study is the identification, analysis, and comparison of courses of action for addressing the current issues and needs associated with distributed training development. Courses of action are thoroughly analyzed and compared and both near- and long-term implementation considerations are identified.

SR 2000-02

The Family Support Group (FSG) Leaders' Handbook. Schumm, W.R., Bell, D.B., Milan, L.M., and Segal, M.W. April 2000. (AD A377285)

This report helps Army Family Support Group (FSG) leaders – particularly in rapid deployment units – start and operate FSGs, by providing them the best information from Army research, family support professionals, and experienced FSG leaders. Although expert judgment has been exercised in the selection and presentation of available materials, the ideas here are only suggested courses of action. Individual FSGs are quite different from one another, and most of these ideas have not been subjected to rigorous evaluations. The topics covered include (1) what FSGs are expected to accomplish, (2) suggestions for starting (or re-energizing) an FSG, (3) relevant Army regulations, and (4) sources of additional help in operating the FSG or for assisting FSG members.

SR 2000-03

Analysis of the Revised Army Career Transitions Survey (ACTS) and Comparison With the Fall 1996 Sample Survey of Military Personnel (SSMP): Results and Recommendations.
Giacalone, R.A. April 2000. (AD A377201)

The Army Career Transition Survey (ACTS) was an exit survey designed to measure soldier satisfaction with various aspects of Army life and to determine whether dissatisfaction with these aspects was related to leaving the Army. The purpose of the present study was to analyze the current ACTS data, to compare responses to ACTS items with responses to comparable items on the Sample Survey of Military Personnel (SSMP), and to make recommendations about continuing the ACTS. The analysis of the current ACTS data identified high satisfaction items such as Army Community Service programs and low satisfaction items such as amount of time separated from family. Although there were a few demographic differences, most differences involved rank groups (officers more satisfied than enlisted personnel with higher levels of enlisted more satisfied than lower levels) and marital status (married personnel generally more satisfied than single personnel). Major reasons for leaving included amount of time separated from family, respect Army shows for its soldiers, and promotion/advancement opportunities. A log linear analysis revealed no overall statistical difference

between similar items on the ACTS and SSMP. Since the ACTS provides information redundant to that obtained on the SSMP, it was recommended that the ACTS be discontinued. Also included in the report are appendices containing a survey assessing the satisfaction of the users of Army survey data and methods for calculating Return on Investment (ROI) for survey data.

SR 2000-04
Differences in Job Satisfaction of Soldiers in Dual Military and Traditional Marriages.
Marshall-Mies, J.C., Seligson, T.B., and Martin, J.A. May 2000. (AD A378008)

This research, which was based on data from the 1995 administration of the *Sample Survey of Military Personnel (SSMP)*, was conducted to compare the attitudes of female officers and enlisted personnel in two types of marriages: Dual Military marriages and Traditional marriages. Overall, there were many more similarities than differences between the women in these two types of marriages in terms of: overall quality of Army life, stress levels, job satisfaction, Army training and promotion opportunities, spousal support for their Army careers, and most basic benefits. The analysis also revealed some significant differences between the two groups. Compared to those in Traditional marriages, female officers and enlisted personnel in Dual Military marriages were more likely to be satisfied with or optimistic about: the possibility of being allowed to stay in the Army beyond their enlistment and until eligible for retirement, the possibility of being promoted on-time or ahead of schedule, career and advancement potential, Army job security, and the spouse's career and work opportunities. Female officers and enlisted personnel in Dual Military marriages were also more likely than their counterparts in Traditional marriages to believe in fairness of Army standards and military justice, have little difficulty meeting current weight standards and APFT requirements; and be satisfied with the amount of VHA/COLA.

SR 2000-05
Live Fire Futures (LFF). Burkett, M.L., Mullen, W.J., and Meliza, L.L. June 2000. (AD A381104)

This study analyzes the impact of force modernization and asymmetric warfare on future live fire training, recommends a new live fire training strategy, and describes a concept for future live fire ranges. The U.S. Army's force modernization goals include improving the range, precision, and effects of direct and indirect fires. Such enhanced capabilities will significantly influence requirements for support of live fire training. Employment of smart weapons, non-line-of-sight weapons, new target acquisition systems, and digital command, control, and communications systems will characterize future combat and should be included in future training. The other major force for change in live fire training is the non-linear nature of future combat. Prominent in the U.S. Army's challenges of the 21st Century will be a wide range of possible operational environments in terms of strategic goals, the political-military situation, the nature of the enemy, civilian population considerations, and the characteristics of the battleground. These variables must also be addressed in the design of training support.

SR 2000-06
Racial Differences in Job Satisfaction. Marshall-Mies, J.C., Martin, J.A., and Seligson, T.B. September 2000. (AD not yet available)

This research summarizes results from a special analysis of data from the 1995 administration of the *Sample Survey of Military Personnel (SSMP)*. The analysis identified differences between Black and White Army officers and enlisted personnel on factors related to job satisfaction and intention to commit to a career in the Army. Findings show that Black officers and enlisted personnel are more

likely than their White counterparts to be satisfied with certain job characteristics, basic benefits, housing, duty assignments, and overall quality of Army life. Black soldiers also subscribe to more egalitarian attitudes concerning male/female work teams and performance but are more negative about racial discrimination and equal opportunity issues. White officers and enlisted personnel are more likely than Black to report joining the Army from a desire to serve their country, experiencing higher levels of stress and lower levels of personal and unit morale, and believing that males work harder and perform better than females. The analysis also identified racial and gender differences among different groups in the area of career intentions: Black female officers and Black male and female enlisted personnel are more likely than the corresponding White groups to intend to stay in the Army until retirement. In comparison, White female officers and White male and female enlisted personnel are more likely to intend to leave the Army after their present obligation.

Study Notes

SN 2000-01

Factors in Determining the Army's Role in Supporting Military Occupational Specialty (MOS) Design/Re-Design. Akman, A. October 1999. (AD A369938)

Since 1989, the Army Research Institute (ARI) has engaged in and sponsored research aimed at developing methods and techniques that can be used to design or re-design Military Occupational Specialties (MOSs). No systematic recent review had been undertaken nor were there any current data that could be used to determine the extent to which there is an Army-wide need for continued research and technical assistance. During Spring 1997, ARI sponsored a series of field visits to enlisted personnel proponent offices at which data were gathered about current MOS design/re-design practices. Proponent offices were visited at Aberdeen Proving Ground, Fort Bliss, Fort Gordon, Fort Knox, Fort Lee, Fort Sam Houston, and Fort Sill. This report is based on the data collected and describes the need for research, the target audience, and the potential payoffs. The appendices provide a summary description of current Army MOS design/re-design practices as well as a summary of the data collected from each proponent.

Research Notes

RN 2000-01

Training Battlefield Critical Thinking and Initiative. Cohen, M.S., Thompson, B.B., Adelman, L., Bresnick, T.A., and Riedel, S.L. October 1999. (AD A369128)

The first objective of this research was to explore and identify the cognitive skills that individuals need to function effectively in domains that require them to cope with uncertainty, change and conflicting purposes. The second objective was to develop and test methods for training those skills in the context of Army battlefield decision making. The training aimed at improving the ability of Army tactical staff officers to grasp the essential elements of a complex, uncertain, and dynamic situation, visualize those elements in terms of their organizational goals, and take action in a timely and decisive manner. The identification of cognitive skills to be trained and training strategies is based on an original theory of critical thinking skills, the Recognition/Metacognition (R/M) Theory. The theoretical and empirical foundations of the R/M model are described using literature on mental models, expertise, behavioral decision-making, and pattern recognition. The critical thinking skills developed for training include (1) developing and using appropriate mental models of high-order purpose and of time orientation, and (2) applying critical thinking strategies to these models, including the identification and filling of critical information gaps and conflicts in situation understanding, goals and plans, and identifying and evaluating underlying plan assumptions. Training is implemented in a stand-alone Compact Disk (CD).

RN 2000-02

Modernizing the U.S. Army Research Institute's Attitude and Opinion Survey Program. Tourangeau, R., Steiger, D.M., Cohen, M., Hanway, S., and Conner, S. November 1999. (AD A370573)

The aim of this project was to assess the quality of ARI's current survey programs, make recommendations for improving them, and to draft regulations that incorporated these recommendations and brought the regulations up to date. Information was gathered about ARI's current attitudinal, command climate, and occupational analysis studies by examining survey documentation and speaking with the staff who carry out the studies. Information was also collected about a number of comparable surveys done by the other services, academic survey organizations, and private firms, and the users of the ARI surveys were queried to assess their satisfaction with ARI's services. ARI was found to use sound methods, comparable to those used by other survey organizations, it achieved similar response rates, and ARI customers expressed a high level of satisfaction. Recommendations are made for continuing enhancement of ARI survey programs. (This is the detailed report of work summarized in ARI Special Report 43, "ARI Survey Programs: An Outside Look", July 1999.)

RN 2000-03

Contract for Manpower and Personnel Research and Studies II (COMPRS II) for the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) -- Annual Report: Year One. Human Resources Research Organization. January 2000. (AD A372487)

This report documents and summarizes the activities of the first year of a 5-year (1 base year and 4 option years) project to provide the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) short- and medium-term scientific and technical support services in the solution of problems related to manpower and personnel. The program is referred to as the Contract for Manpower and Personnel Research and Studies II (COMPRS II). HumRRO's primary responsibilities are to administer COMPRS II for ARI under firm fixed price contracts by managing

three interrelated tasks: (a) managing the COMPRS II program in accordance with established operating procedures; (b) receiving and processing individual Statements of Tasks from ARI; and (c) managing, reporting progress on, and documenting the completion of delivery orders. Thirteen delivery orders, documented in this report, were awarded during the first year.

RN 2000-04
Observations of Infantry Courses: Implications for Land Warrior (LW) Training. Centric, J.H., Wampler, R.L., and Dyer, J.L. January 2000. (AD A372853)

The research examined the potential impact of the Land Warrior (LW) system on three Infantry courses: the Infantry Officer Basic Course (IOBC), Basic Noncommissioned Officer Course (BNCOC), and Infantry One-Station Unit Training (OSUT). The areas investigated within each course were weapons training including use of the target acquisition capabilities of the LW, communications training, land navigation, operational techniques and tactical operations, field exercises, and computer skill training. Formal observations were made of these blocks of instruction in each course. The report describes both major and minor impacts upon course content and training resources. In addition, different options are presented on how to integrate LW training into the courses. Because the LW system was evolving during the research period, the training impacts represent the best estimate at the time and could change as a result of LW system changes, institutional course changes, or both. The actual impacts will depend on decisions made regarding which LW tasks should be taught, the scope and depth of this training, and the performance standards required for these tasks.

RN 2000-05
Predicting Enlistment Propensity of Young African Americans. Hughes, A.O., Khatri, D.S., Ausbrooks, B.N., Sims, E., Mitchell, T., and Shanklin, W. January 2000. (AD A372543)

We developed and tested a structural model to predict enlistment propensity of young African Americans ages 16-19.

RN 2000-06
An Informational Approach to Skill Transfer. Lintern, G. January 2000. (AD A372486)

This research program studied the nature of fundamental skills underlying the expertise of aircraft pilots. The research program included a review of the issues facing flight instruction. The specific tasks of landing a light aircraft and of navigating an aircraft through an unfamiliar area were selected for intensive study. The experimental projects undertaken in this program used a flight simulation system developed around a real-time computer-generated visual display. Two experimental paradigms were exploited. One was used to explore the visual information and skills used to support the aircraft landing task. As a means of identifying critical sources of information, experiments with experienced pilots examined how distortions in the simulated visual scene affected landing performance. The second paradigm evaluated transfer in a mission rehearsal task. A navigational database was developed and displayed via the visual simulation system. Flight students were taught navigational skills under different experimental conditions and were then tested in a realistic navigation condition.

RN 2000-07

Overview of ARI Recruiting Research. Borman, W.C., Horgen, K.E., and Penney, L.M. January 2000. (AD A374580)

This report presents in briefing form a summary of the research conducted by the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) on Army recruiting and selected recruiting research from other Service laboratories. The briefing is organized around a model of Army recruitment that shows the important factors contributing to successful recruiting. The first section of the briefing outlines and explains the model and the subsequent sections review the research pertinent to each section of the model. The briefing concludes with summaries of the research findings in each area and directions for future research.

RN 2000-08

Thinking Strategically About Army Strategic Leadership: Revolution or Evolution? 1999 Senior Leadership Seminar. Boyce, L.A., Gade, P.A., Zaccaro, S.J., and Klimoski. R.J. April 2000. (AD A377891)

The 1999 Senior Leadership Seminar held at George Mason University on 10 September 1999 brought together key senior Army leaders and civilian leadership experts from academia and industry to discuss implications for leadership policy and practices within the framework of Army challenges, such as geopolitical and socioeconomic changes. Presentations by Dr. Ireland of Baylor University highlighted effective strategic leadership and human resource management practices for the future Army. GEN (Ret.) Sullivan followed with his reflection of the Army perspective of the leadership challenges. Following the presentation, the participants engaged in executive round-table discussions focused on (1) how to reinvigorate and enliven the leadership development process in the Army, and (2) how to move the TLS imperatives into the future, synchronizing TLS with DOM. A major outcome from the seminar was a shared understanding of leadership issues by senior Army leaders, industry leadership consultants, and academic leadership experts. This document provides the background information leading to and shaping the seminar and an overview of the seminar process and outcomes. Supporting detailed documentation is also included in the appendixes.

RN 2000-09

The Commanders' Integrated Training Tool for the Close Combat Tactical Trainer: Functional Architecture (Design). Dannemiller, B. and Gossman, J.R. May 2000. (AD A377870)

This research note details the recommended design of the Commanders' Integrated Training Tool (CITT) application. The CITT is designed to provide commanders and training developers with ready access to information concerning the Close Combat Tactical Trainer (CCTT), existing CCTT training support packages (TSPs), and guidance and tools for modifying and developing CCTT TSPs. This research note includes numerous Integrated Computer Aided Manufacturing Definition or IDEFØ diagrams and their derivatives. These documents can be used by software programmers in the development of the objective CITT. The documentation is fully supportive of the Army Training Information Management Program (ATIMP) Systems requirements as delineated by the Department of Defense Enterprise Model and was completed in accordance with industry accepted modeling procedures and standards. The purpose of this model is to identify and organize information that supports the development of a comprehensive application that provides for the creation, archiving, and retrieval of TSPs. It provides all required documentation for the development of an application that details the framework and all necessary tools for the creation and modification of TSPs for use in CCTT. This includes data on the structured training process and the exercise development process, all of which are key features of the CITT.

RN 2000-10

Initial Data Collection and Preliminary Analyses for Research on First-Term Soldier Attrition and Management (Project First Term). Sipes, D.E. and Sadacca, R. June 2000. (AD A379284)

The 1st Term Program is a six-year effort to research the causes of attrition over the first enlistment term. The longitudinal design follows a cohort of fiscal year 1999 accessions throughout their first term. This report documents the development and initial administration of three data collection instruments: Soldier Reception Survey (SRS), End-of-Training Survey (EOT), and Exit Survey. Theory behind inclusion of specific survey items and their role in attrition modeling is discussed. Where specific survey items were taken from existing surveys, a cross-reference is provided. Preliminary scale development from a subset of SRS data is described, as well as quality of data from early SRS administrations.

RN 2000-11

Continued Emphasis on Leadership: One Solution for Future Soldier Effectiveness. Tremble, T.R. and Bergman, S.M. August 2000. (AD A380925)

This effort compared competencies advanced by Army doctrine for leadership development with the knowledge, skills, and attitudes (KSAs) that subject-matter experts had agreed-upon as predictive of the performance of non-commissioned officers (NCOs) in jobs of the future. Based on this comparison, there was an overlap of the attributes projected as needed for the future with the attributes defined by the Army as important for leadership performance and effectiveness. The comparison also allowed inferences about aspects of leadership that might be especially important for the Army to consider in its programs for developing soldiers to serve in the leadership roles of the future. These inferences place emphasis on future leaders who (1) have broad perspectives; (2) can communicate well; (3) have an active style of leadership; (4) are active learners; (5) are also active trainers, teachers, and developers; and (6) make (and reflect in their behavior) ethically sound decisions.

Index of ARI Publications

Abbreviations

RN   Research Note
RP   Research Product
RR   Research Report
S   Special Report

SN   Study Note
SR   Study Report
TR   Technical Report

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